



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,521	10/23/2003	Nakaba Tamura	117584	6377
25944	7590	01/23/2008		
OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850			EXAMINER NGUYEN, CAM N	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 01/23/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/690,521

Applicant(s)

TAMURA, NAKABA

Examiner

Cam N. Nguyen

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/12/07 (an amendment/response).  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) 2-5 and 8-18 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,6 and 7 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on originally filed is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

**Response to Amendment**

1. Applicants' amendment and remarks, filed October 12, 2007, has been made of record and entered. Claims 1 & 7 have been amended.

Claims 1-18 are currently pending.

**Status of Withdrawn Claim(s)**

2. This application contains claims 2-5 & 8-18 which drawn to an invention nonelected without traverse in Paper No. February 08, 2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

**Claim Rejections - 35 USC § 112 (First Paragraph)**

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-5 & 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The amended claims 1 & 7 recite the limitation "wherein said mesh cracks in said support layer have an interval from 5 to 20 nm". This limitation appears to be unsupported by the original disclosure. However, the instant disclosure defines "mesh cracks" being (mesh fineness) and having a range of from 5 to 20  $\mu\text{m}$  on page 13, lines 14-19. Thus, the newly added limitation in claims 1 & 7 are not commensurate within the scope of the instant disclosure.

**Claim Rejections - 35 USC § 102(b)**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 6, & 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Beauseigneur et al., "hereinafter referred to as Beauseigneur", (US Pat. 5,334,570).

Beauseigneur discloses a catalyst device comprising a porous catalyst support, the support consisting essentially of: a multichannel substrate having porous walls defining the channels and a network of open pores distributed through the walls, the walls containing washcoat particles bonded to the walls, all of which particles are of colloidal particle sizes in the range of about 0.001-0.1 micrometers and selected from the group consisting of alumina, rare earth oxide, silica, and zirconia, over 50% of the washcoat particles being deposited within the pores on the surfaces thereof substantially throughout the walls, any other portion of the washcoat particles being deposited on the external surfaces of the walls, and the washcoat particles not filling any microcracks in the walls (see col. 17, claim 1). See also col. 18, claims

Art Unit: 1793

2-14. The average diameter of the colloidal particles is in an approximate range of 1 to 100 nanometers (see col. 18, claim 15).

It is inherent that the disclosed catalyst support would have the "mesh cracks" as required in the instant claims 1 & 7 because it has the same structure including the claimed metal oxide materials and an average particle diameter range of 1-100 nm, which embraces the claimed range of 10 nm to 30 nm or 10 nm or more, as required in claims 6 & 7, respectively.

There is no patentable distinction seen between the claimed catalyst support and that disclosed by the reference. Thus, the claims are anticipated by the teaching of the reference.

7. Claims 1 & 7 are rejected under 35 U.S.C. 102(b) as being anticipated by European Patent (EP 0 736 503 A1), "hereinafter EP '503".

EP '503 discloses an exhaust gas filter having a matrix with multiple pores and a coating layer provided on the surface of said matrix and the inner surface of the pores inside said matrix, supporting a catalyst, etc., said coating layer has communicating pores which communicate from its surface to the surface of the matrix or the inner surface of the pores inside the matrix, etc. (see col. 22, claim 15). The average pores size of said communicating pores is 10-60  $\mu\text{m}$  (see col. 22, claim 16).

With respect to the limitation on "mesh cracks", it is inherent that the disclosed catalyst support would have the same properties as being claimed because it has the same structure including the same metal oxide materials as being claimed.

Art Unit: 1793

With respect to the claimed average pore diameter, it is considered the instant claimed average pore diameter is met by teaching of the reference since the instant claim 7 recites "10 nm or more", which does not have a limit for the upper range.

**Response to Applicants' Arguments**

8. Applicants' amendment and response filed on October 12, 2007 has been fully considered, but not deemed persuasive because of the following reasons.

Applicants' arguments regarding the limitations on the "mesh cracks in the support layer have an interval from 5 to 20 nm" and "average pore diameter" have been noted. The arguments are not found persuasive because there is no support for the limitation on "5 to 20 nm" in the instant disclosure. See discussion in the rejection made under 112 (first paragraph) above.

Regarding the argument on "average pore diameter", it is considered the support material disclosed by Beauseigneur also have pores and having the average pore diameter in the range of 1-100 nm because the reference clearly teaches that "the walls containing washcoat particles bonded to the walls, all of which particles are of colloidal particle sizes in the range of 0.001-0.2 micrometers ..., over 50% of the washcoat particles being deposited within the pores on the surfaces thereof substantially throughout the walls, any other portion of the washcoat particles being deposited on the external surfaces of the walls, and the washcoat particles not filling any microcracks in the walls" (see col. 17, claim 1 again). Beausieigneur further discloses that the average diameter of the colloidal particles is in an approximate range of 1 to 100 nanometers (see col. 18, claim 15). Thus, there is no patentable distinction seen between the claimed support material and that disclosed by the references. The rejections are therefore maintained.

Art Unit: 1793

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### **Conclusion**

10. Claims 1-18 are pending. Claims 1, 6, & 7 are rejected. Claims 2-5 & 8-18 are withdrawn due to nonelected (distinct) invention(s). No claims are allowed.

### **Contacts**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M-F, 9:00 AM - 6:30 PM, at alternative work site.

Art Unit: 1793

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Cam N. Nguyen/

Nguyen/cnn

Primary Examiner

January 16, 2008

Art Unit: 1793